

# ICC Workshop Presentation

## September 9, 2021



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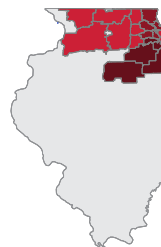
An Exelon Company

# Who We Are & What We Care About

ComEd proudly serves 70 percent of the population of Illinois, with 3.8 million customers in Northern Illinois

## ComEd Is a Distribution Company

Approximately 60 percent of ComEd residential customers receive their electricity supply from the utility, and ComEd passes on those costs without profit or markup. Across residential, commercial, and industrial customers, ~30 percent of load is served by ComEd supply.



- ✓ 11,000 square miles
- ✓ More than 400 municipalities
- ✓ 25 counties
- ✓ 6,000 employees.

ComEd has developed a holistic strategy to advance clean energy, address air pollution and decarbonization, modernize the grid to meet future needs, and uplift our communities

**Combatting global climate change by achieving 100% clean and renewable energy**

**Using our clean energy advantage to power new clean transportation technologies and healthier air for our children**

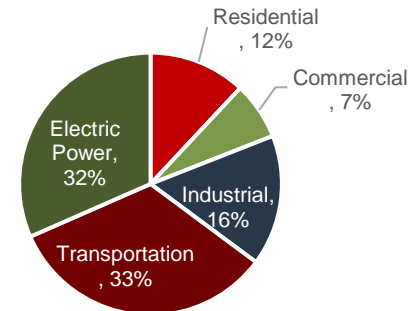


**Help customers in need, grow quality jobs, and ensure all communities have access to clean energy and its benefits**

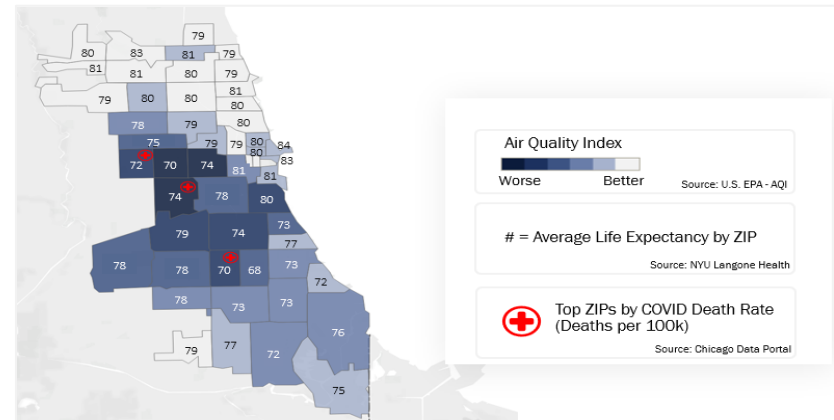
**Increasing renewable energy hosting capacity while improving power quality and resilience (physical and cyber)**

## The Problem: Harmful Emissions from Transportation

- Thanks to continuing energy efficiency and clean energy efforts, emissions from the electric power sector have reduced by over 30% since 2005.
- Illinois policies have not, however, impacted emissions from transportation and those resulting from direct end uses in the residential, commercial, and industrial sectors.
- Those sectors account for over 2/3rds of Illinois' ~200 million metric tons of annual CO<sub>2</sub> emissions, at an estimated social cost of over \$7 billion.
- Illinois' dependence on fossil fuels for transportation and other technologies has also led to high levels of local air pollution, with devastating health impacts
- Low-income communities, and particularly communities of color, are suffering from disproportionate exposure to high levels of localized air pollution and its accompanying health impacts, while navigating several other socio-economic inequities.



Illinois CO<sub>2</sub> Emissions (2018)<sup>1</sup>



**Transportation electrification** provides a unique opportunity to tackle lung-damaging pollution and address climate change. To unleash that opportunity, we need to overcome key adoption barriers:



**Upfront Costs of Vehicles**



**Charging Availability & Installation Costs**



**Education & Awareness**



**Equitable Access & Benefits**

## Illinois' EV Charging Needs & Costs

- The charging ports required to support the Governor's goal of 1M EVs by 2030, based on NREL's EV infrastructure projection tool (EVI Pro-Lite), are as follows:

Charger Type <sup>1</sup>	Existing Chargers	1M EVs by 2030 (Gov. Pritzker Goal)	New Chargers Required for 1M EVs
Workplace L2	<i>Data Unavailable</i>	3,912	<i>Data Unavailable</i>
Public L2	1,780	2,948	1,168
Public DCFC	440	4,348	3,908
Residential	22,000 (est.)	750,000	728,000

- To support the increased adoption of clean transportation, **Illinois needs up to an additional 1,168 Public L2 and 3,908 Public DCFC charging ports**
- According to a DOE study<sup>2</sup>, public “make ready” costs average ~\$3000 per L2 and can range between \$8,000-\$51,000 per DCFC port.

*Topical question from ICC Workshop Notice (3.a.):*



**EVSE + make-ready + utility-side infrastructure rebates:** Which EV charging use cases are the most compelling for allowing utility rebates for EVSE/make-ready/utility-side infrastructure and how should associated costs be recovered?

- 1) Assumes 90% of new vehicles are BEVs with 250 mile or greater range with 2% PHEVs (remainder on BEVs with 100-mile range). Assumes 75% of customers will have at home chargers.
- 2) [https://afdc.energy.gov/files/u/publication/evse\\_cost\\_report\\_2015.pdf](https://afdc.energy.gov/files/u/publication/evse_cost_report_2015.pdf)

# Advanced Grid Technologies to Integrate Beneficial Electrification

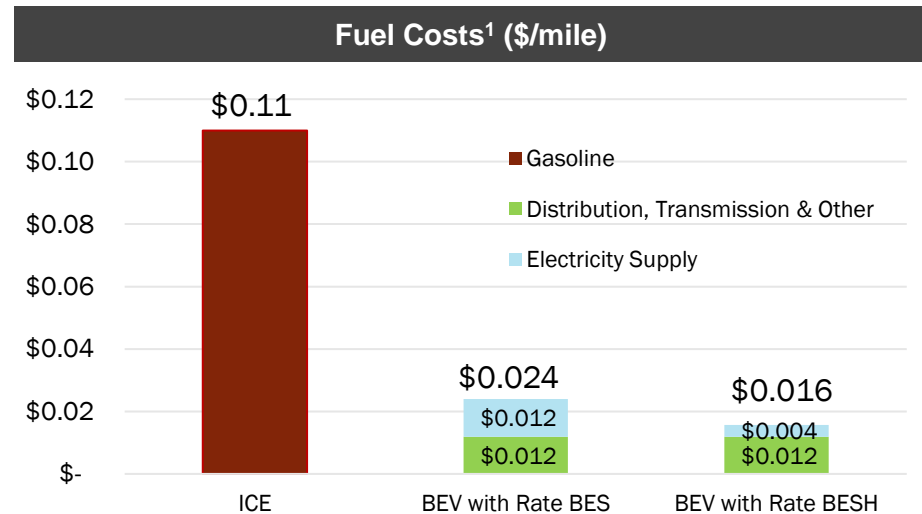
- While the peak load impact of supporting 1M EVs is expected to be minimal, locational impacts, especially for feeders with DCFC chargers, may be significant and need to be addressed
- In addition to other investments, advanced grid technologies can be used to preserve and enhance grid reliability with the help of monitoring, visualization, and real-time management of specific applications



## Opportunities to Optimize Fuel Savings

### Fuel Savings Optimized by Dynamic Supply Pricing

- Fuel costs for an average internal combustion engine (ICE) vehicle are \$0.11/mile (~28% of the total cost of car ownership) compared to an EV on Rate BES at \$0.024/mile (~6% of the total cost of car ownership)
- Further fuel costs savings are enabled through ComEd's Hourly Pricing rate, Rate BESH, which drops those costs to \$0.016/mile (~4% of the total cost of car ownership)
- Research published by CUB in 2019 similarly found that EV drivers responding to price signals on ComEd's Hourly Pricing rate would save an additional 52-58% compared to drivers on the default rate
  - Subsequent CUB research showed similar savings (~50%) for customers in Ameren's service territory



*Topical questions from ICC Workshop Notice (1.b. & 1.c.):*



**Whole-home TOU vs. EV-specific TOU:** Do whole-home TOU rates, even when targeted at EV owners, discourage EV adoption?

**EV sub-metering equipment:** Are there models for using anything other than secondary utility meters to allow for EV-only TOU rates, and, if so, is the technology reliable enough to be used, at least potentially as part of a pilot program?

## Customer Education & Awareness

### Residential Customer EV Journey

#### Awareness

Usual surroundings; triggers to do more

#### Research

Deliberate efforts to find out something specific

#### Purchase car

Experience at dealership, showroom, or online

#### Purchase charger

Retail and online experience

#### Install charger

Experience with electrician or New Business

#### Drive/charge

Ongoing experience; what he says about Opco to others

#### Rates

Awareness of and enrollment in rates that help control electric bill

Talking with EV owners is getting me excited about my new car

**RESEARCH ROLLERCOASTER**

Lots of EVs!  
Only some are available

There are tax credits!  
State may not offer EV incentives

YouTube is helpful  
EV calculators are hard

I wish the dealer had been helpful or informative  
I'm so excited to own an EV!

Dang, it's not fully charged

Maybe I should consider buying a faster charger

That was a lot of effort to install my EV charger

I'm so excited to talk about my EV!

How can I calculate my savings and environmental impacts?

As a first step, ComEd's EV Toolkit serves to raise awareness to the benefits of EV's and address customer questions:

- EV fuel cost savings, benefits & available incentives
- Review EV brands, models, and charger options
- Search for public charging
- Find the right Rate
- Check your EV Charger readiness

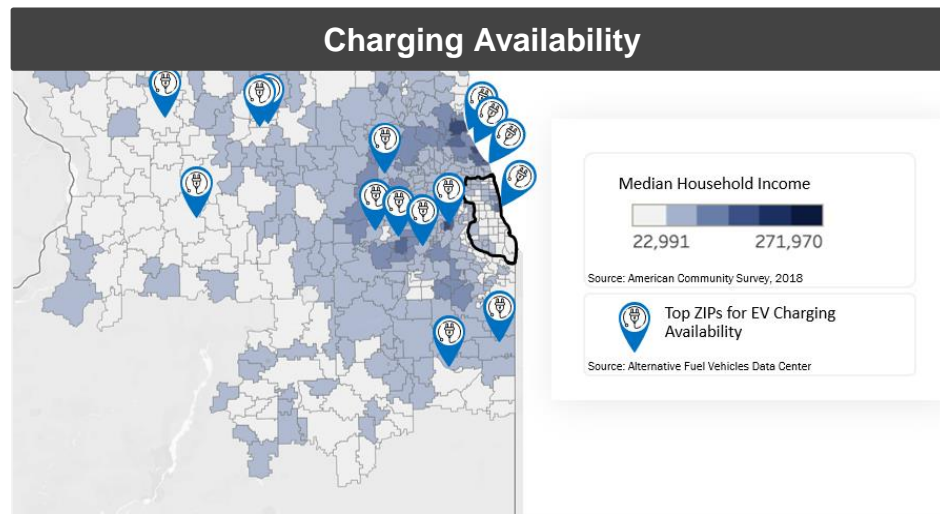
### Unique Considerations for Fleet Owners

- Fleet owners require additional cost and benefit information to assess the financial, operational, and environmental impact of electrification. This includes information on:
  - Infrastructure costs and implications for real estate and facility design
  - Opportunities to manage and optimize charging patterns
  - The availability of vehicles that meet specific operational needs
  - Contribution to sustainability and emissions goals



## Addressing Inequity in Our Communities

- It is vital that the communities most impacted by air pollution reap the benefits of clean transportation
- To do this, we need to overcome significant obstacles to:
  - provide underserved communities with access to the benefits of clean transportation (e.g., through electrification of public transportation, school buses, and commercial fleets)
  - create pathways to EV adoption (e.g., through income-specific incentives and development of a used EV market)
  - address charging infrastructure access issues (e.g., through geotargeted public charging development, make ready investments, and solutions for multi-unit dwellings (MUD) charging)



*Topical questions from ICC Workshop Notice (4.b. & 4.c.):*



**Encouraging adoption:** What best practices exist that address low to moderate income EV adoption?

**Other opportunities:** Are there other opportunities that can provide direct and indirect benefits to low income, rural, environmental justice and environmentally burdened communities? (e.g. public transit electrification; corridor charging)



# Our Clean Transportation Future

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ComEd looks forward to working with stakeholders to pursue beneficial electrification strategies that:

- 1) put Illinois' clean energy to work to further reduce emissions and improve health and air quality in our communities;
  - 2) reduce barriers to adoption of beneficial electrification technologies for families and businesses; and
  - 3) prioritize inclusion of, and targeted benefits for, low to moderate income communities.
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